

Work Order ID 65369

PRELIMINARY ISSUE



Page 1

January 13, 2011 1:05:08 PM

Item ID: D206-667-107BL

Accept



Setup Start



Revision ID: PRELIM

Item Name: 206 Fwd Crosstube

Stop



Start Date: 1/13/11 Start Qty: 1.00



Cust Item ID:

Required Date: 1/20/11 Req'd Qty: 1.00

Customer:

Reference:

Approvals: Process Plan: Y Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
----------	--------------

100	0.00
	DOCUMENT CONTROL
DC	Memo
Document Control	Photocopy bluefile and create labels as per PPP D206-667-107

11-01-24

110	0.00
	Pick Kit
Packaging	Packaging
Packaging	Memo
Packaging	

DP 11-1-12

120	0.00
	BENDING MACHINE - CROSSTUBES
CNC Bend 2	Memo
CNC Alpha 160 Bender	Bend tube as per Dwg D206-667-147 using CNC bender program

DP 11-1-12



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Item ID: D206-667-107BL

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Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

130

QC15- Crosstube Dimensional Check

0.00



QC

Memo

0.00

Quality Control

*P 11-01-17*

**Work Order ID 65369**

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Page 3

Item ID: D206-667-107BL

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Item Name: 206 Fwd Crosstube

Start Date: 1/13/11 Start Qty: 1.00

Required Date: 1/20/11 Req'd Qty: 1.00

Cust Item ID:

Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:

QC: Date: SPC (Y/N): Date:

Run Start

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

140



Crosstubes

Crosstubes

Memo

0.00

1-Drill holes &amp; ream using drill Jig DT &amp; DT as per Dwg D206-667-147. Drill all (3) top holes.

3-Flip tube and switch drilling Jigs from right to left, left to right. Locate Jigs off existing holes using "T" pins.

4-Drill pilot holes using drill Jig DT &amp; DT as per Dwg D206-667-147. Drill only the top (2) holes.

5-Drill pilot holes as per Dwg D206-667-147. Drill only the top (2) holes.

6-Drill Fwd rivet holes using drill Jig DT as per Dwg D206-667-147.  
Note: Fwd side has 3x top holes.

7-Drill Aft rivet holes using drill Jig DT as per Dwg D206-667-147.

8-C'sink holes as per Dwg D206-667-147. Allow rivet to sit below surface to compensate for paint.

9-Scribe part # and batch # using vibrating stylus as per Dwg D206-667-147  
Inside of Cuff(Donot engrave on outside of tube)

10-Deburr &amp; Inspect for surface damage. Repair damage within limits as per Dwg D206-667-147

SAJ

11-01-12

11-1-12

# Work Order ID 65369

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Item ID: D206-667-107BL

Accept



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Item Name: 206 Fwd Crosstube

Stop



Start Date: 1/13/11 Start Qty: 1.00



Cust Item ID:

Required Date: 1/20/11 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

150

Crosstubes Chemical Conversion

0.00



HandFXtube

Memo

0.00

Hand Finishing Crosstubes



11-1-13

160

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

BR ① M-01-17

170

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

- inspect to final  
dry only  
8/10/17

**Work Order ID 65369**

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Item ID: D206-667-107BL

Accept



Setup Start



Revision ID: PRELIM

Stop



Item Name: 206 Fwd Crosstube

Start Date: 1/13/11 Start Qty: 1.00



Cust Item ID:

Required Date: 1/20/11 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180 	Outsource process - NDT per QSI038 4.1	0.00							
Outsource2	Memo	0.00							
Outsource process - NDT	CROSSTUBES								
190 	Packaging	0.00							
Packaging	Memo	0.00							
Packaging	Ensure copy of NDT results attached to work order.								
200 	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00							
Quality Control									

710.13298

CY 11/10/11 7

Re 11/14/11 1

ml - H 01 18 11

# Work Order ID 65369

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Item ID: D206-667-107BL

Accept



Setup Start



Revision ID: PRELIM

Item Name: 206 Fwd Crosstube

Stop



Start Date: 1/13/11 Start Qty: 1.00



Cust Item ID:

Required Date: 1/20/11 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

210

0.00



SprayPaint

SprayPaint

Memo

0.00

Spray Painting

1-Prime inside and outside crosstube as per QSI 005 4.2 ✓

2-Paint outside crosstube with ~~White~~ <sup>Blue</sup> Incon as per QSI 005 4.2 ✗

PRIME:

Start Time: \_\_\_\_\_

Finish Time: \_\_\_\_\_

PAINT:

Start Time: \_\_\_\_\_

Finish Time: \_\_\_\_\_

Primer: 115967

Paint: 115509

Clear: 115949

ml 13 01 18 (1)

220

0.00



QC14- Inspect Spray Paint

QC

Memo

0.00

Quality Control

Wrap in plastic bag to protect from scratches

1 18-01-19

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Item ID: D206-667-107BL

Accept



Setup Start



Revision ID: PRELIM

Stop



Item Name: 206 Fwd Crosstube

Start Date: 1/13/11 Start Qty: 1.00



Cust Item ID:

Required Date: 1/20/11 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: Date: Tooling: Date:

Stop



QC: Date: SPC (Y/N): Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

230

0.00



Crosstubes

M 19 01 19 (1)

Crosstubes

Memo

0.00

1-Install support using 0.03" to 0.06" thick layer of magnobond 6398 per QSI 015. Let cure for 12h after installation and prior to packaging. Note: (2) Aft holes should be facing up.  
A/R Magnobond 6398 : 115580 exp: 07/2011

M 11/01/21

2-Install supports and clamps as per Dwg D206-667-147. Torque clamps to 80-100 in lb

3-Install nut plates as per Dwg D206-667-147. Touch-up rivet heads with Imron paint.

240

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

11-01-20



# Work Order ID 65369

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Item ID: D206-667-107BL

Accept



Setup Start



Revision ID: PRELIM

Item Name: 206 Fwd Crosstube

Stop



Start Date: 1/13/11 Start Qty: 1.00



Cust Item ID:

Required Date: 1/20/11 Req'd Qty: 1.00

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

250

Pick Kit

0.00



Packaging

Memo

0.00

Packaging

260

QC4- 100% Inspect kits for completeness

0.00



QC

Memo

0.00

Quality Control

270

Packaging

0.00



Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D206-667-107

Location: 53

PPP Rev: \_\_\_\_\_

*Not Required*

# Work Order ID 65369

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Item ID: D206-667-107BL

Accept



Setup Start



Revision ID: PRELIM

Item Name: 206 Fwd Crosstube

Stop



Start Date: 1/13/11 Start Qty: 1.00



Cust Item ID:

Required Date: 1/20/11 Req'd Qty: 1.00

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

280

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

*RD 1373 JAN*

*OK 11/01/24*

*mf 11-01-24*

POSITIVE RECALL

EFFECTIVE 1/23 AUTH [Signature]

RELEASED \_\_\_\_\_ DATE \_\_\_\_\_

January 13, 2011 1:05:05 PM

Page 1

[REDACTED]




.....

**Start Date:** 1/13/11**Required Date:** 1/20/11

**Start Qty: 1.00**

**Required Qty: 1.00**

**Comments:** revA 11.01.13 New Issue EC verified by:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN5-30A 		Purchased	No				Each	100.0000	4	4		11/1/21 SP	
BOLT													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				ST339				100					
					114941			50					
					<u>116003</u>			50					
AN5-32A 		Purchased	No				Each	226.0000	4	4		11/1/21 SP	
Bolt													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				ST340				226					
					114405			16					
					115016			50					
					115108			50					
					115589			60					
					115698			50					
AN5-7A 		Purchased	No				Each	238.0000	10	10		11/1/21 SP	
Bolt													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				ST337				238					
					113149			100					
					115936			38					
					<u>116516</u>			100					

# Picklist Print

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Page 2

Work Order ID: 65369

Parent Item: D206-667-107BL

Parent Item Name: 206 Fwd Crosstube

Start Date: 1/13/11

Required Date: 1/20/11

Start Qty: 1.00

Required Qty: 1.00

AN960JD516 NAS1149D0563J Purchased No

Each 34.0000 18 18



Washer

## Location

## Loc Qty

## Loc Code

ST

34

103694

18

107534

12

109287

4

AN970-4 Purchased No

Each 123.0000 12 12



Washer

## Location

## Loc Qty

## Loc Code

ST344

100

115936

100

ST349

23

116081

23

D206-667-247TRN Manufactured No

Each 0.0000 1 1



Crosstube Ass'y

D2873-043 Manufactured No

Each 20.0000 2 2



Nut Plate Assembly

## Location

## Loc Qty

## Loc Code

LG

18

63497

18

ST

2

60981

2

January 13, 2011 1:05:06 PM

Shop Packet Print

Page 2

# Picklist Print

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Page 3

Work Order ID: 65369

Parent Item: D206-667-107BL

Parent Item Name: 206 Fwd Crosstube

Start Date: 1/13/11

Required Date: 1/20/11

Start Qty: 1.00

Required Qty: 1.00

D2873-045

Manufactured No

Each

20.0000

2

2



Nut Plate Assembly



11.01.21

## Location

## Loc Qty

## Loc Code

LG

20

60982

4

63498

16

D2891-1

Manufactured No

Each

51.0000

2

2



2.25 Support



11.01.19

## Location

## Loc Qty

## Loc Code

LG

51

46159

1

50952

18

53773

20

62595

12

D3595-063-395

Manufactured No

Each

75.0000

4

4



RUBBER CUSHION



11.01.19

## Location

## Loc Qty

## Loc Code

FP

10

44667

10

ST

65

63368

65

cut (4)0.063" X 3.95"

# Picklist Print

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Work Order ID: 65369

Parent Item: D206-667-107BL

Parent Item Name: 206 Fwd Crosstube

Start Date: 1/13/11

Required Date: 1/20/11

Start Qty: 1.00

Required Qty: 1.00

MS20601-AD4W8

Purchased

No

Each

234.0000

14

14



RIVET

## Location

## Loc Qty

## Loc Code

LG

130

115855

30

116119

100

ST322

104

112203

104

MS21042L5

Purchased

No

Each

1,353.000

4

4



Nut

## Location

## Loc Qty

## Loc Code

ST139

26

114813

26

ST300

1327

115156

5

115594

500

116104

126

116105

496

116548

200

MS21920-20

Purchased

No

Each

57.0000

4

4



Clamp (per MIL-DTL-8783C)

## Location

## Loc Qty

## Loc Code

LG

57

112624

2

114687

1

115057

4

115736

50

January 13, 2011 1:05:07 PM

Shop Packet Print

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Item	Qty -147	Part Number	Description
1	X	D206-667-147	CROSSTUBE ASSEMBLY (206L MID FWD)
2	1	D6002-115	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2891-1	SUPPORT
6	4	D3595-063-395	RUBBER CUSHION
7	4	MS21920-20	CLAMP (OR MS21920-21)
8	14	MS20601AD4W8	RIVET (OR NAS9302B-4-8)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299- 947-100, TYPE II, CLASS 2 ADHESIVE)

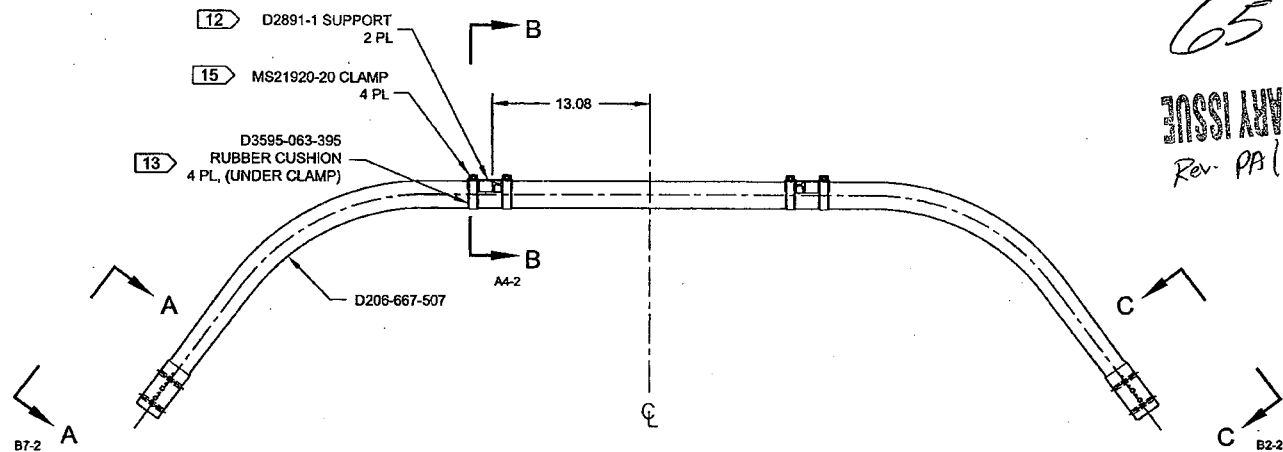
**GENERAL NOTES:**

- 1) MATERIAL: MANUFACTURED FROM D6002-115  
FINISHED LENGTH = 99.84±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D206-667-147" AND BATCH NUMBER ON  
INSIDE OF CUFF PER DART QSI 044 6.4 (VIBRATING STYLUS).
- 7) WEIGHT: 15.0 lbs (-507 = 12.84)
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY,  
TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 10 PASSES. MAXIMUM TUBE FLATTENING DUE  
TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2891-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI  
015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-20 CLAMPS (OR -21) WITH D3595-063-395 RUBBER CUSHIONS TO SECURE  
THE D2891-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS  
ARE LOCATED ON CROSSTUBE SUPPORTS.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE  
OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS  
SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT  
LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN  
SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

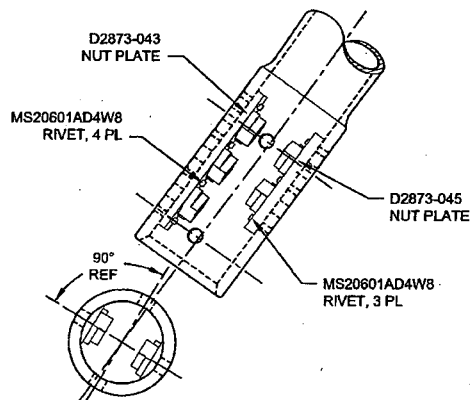
**PRELIMINARY ISSUE**

Rev A71 CP 10.61.06

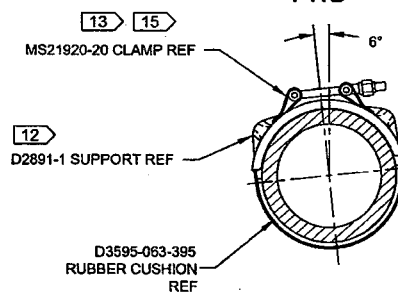
PA	NEW ISSUE	CP	10.11.23
REV.	DESCRIPTION	BY	DATE
DESIGN	qp	DART AEROSPACE LTD	
DRAWN	qp	HAWKESBURY, ONTARIO, CANADA	
CHECKED	h	DRAWING NO.	REV. A
MFG. APPR.		D206-667-147	SHEET 1 OF 4
APPROVED		TITLE	SCALE
DE APPR.		CROSSTUBE ASS'Y (206L MID FWD)	NTS
DATE	10.12.23	COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR DISCLOSED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



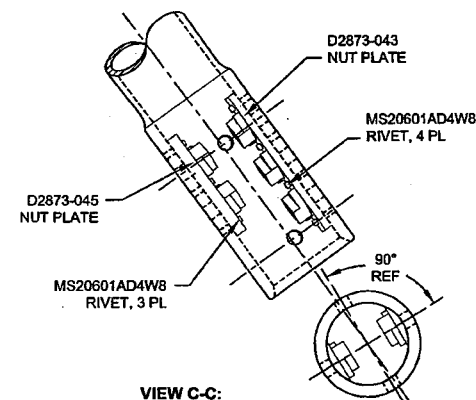
**D206-667-147**  
**ASSEMBLY DETAIL**  
(VIEW LOOKING FWD)



**VIEW A-A:**  
**CUFF DETAIL**  
SCALE 4X



**SECTION B-B**  
SCALE 5X

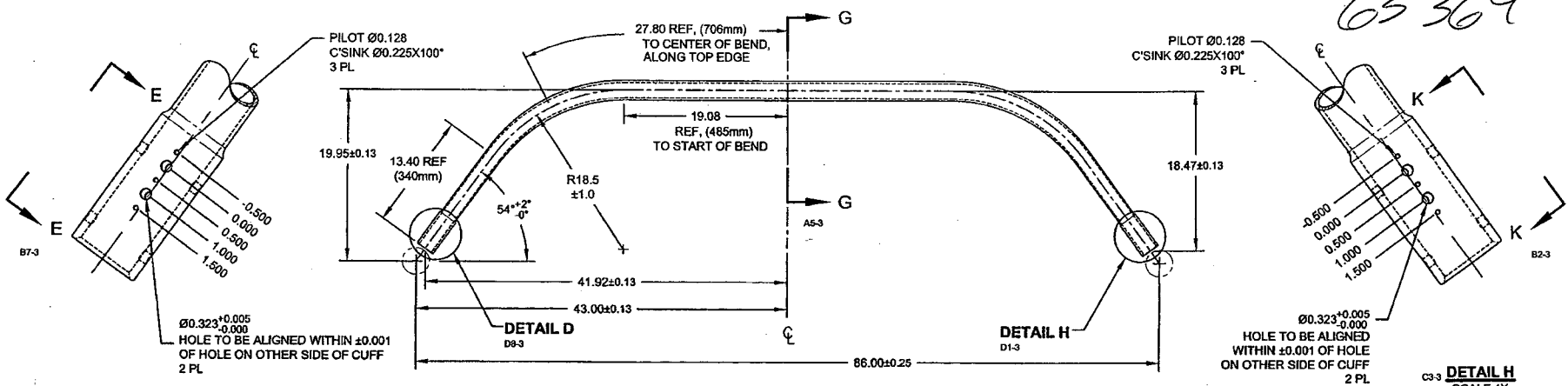


**VIEW C-C:**  
**CUFF DETAIL**  
SCALE 4X

DESIGN	99	<b>DART AEROSPACE LTD</b>	
DRAWN	99	HAWKESBURY, ONTARIO, CANADA	
CHECKED	99	DRAWING NO.	REV. A
MFG. APPR.		D206-667-147	SHEET 2 OF 4
APPROVED		TITLE	SCALE
DE APPR.		CROSSTUBE ASS'Y (206L MID FWD)	NTS
DATE	10.12.23	<small>COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS UNCLASSIFIED AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	



65369

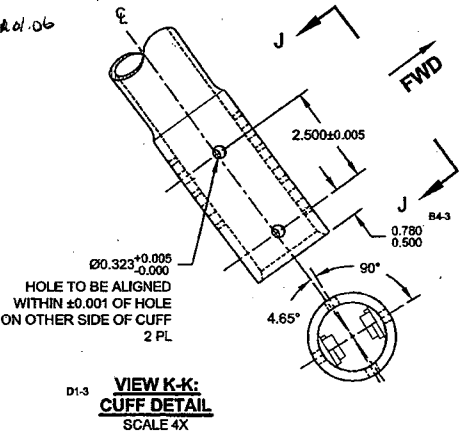
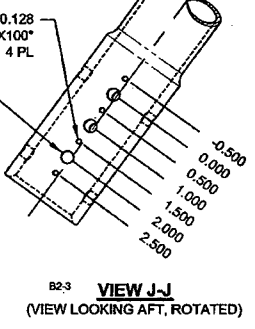
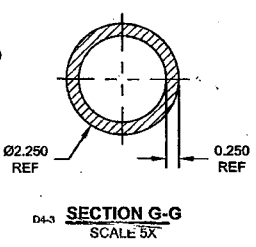
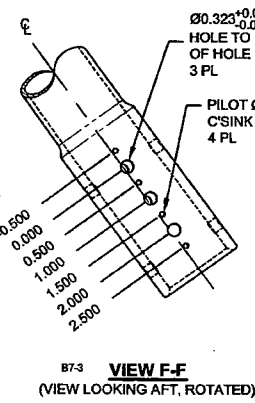
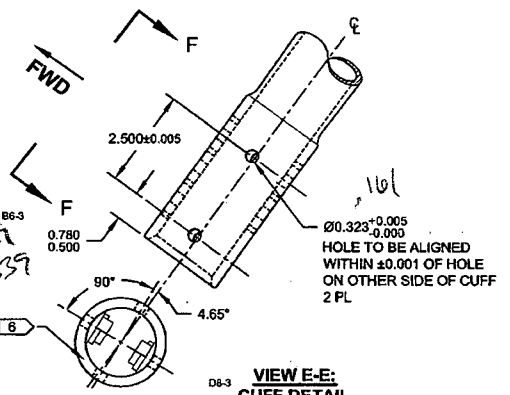




**DETAIL D**  
SCALE 4X  
(VIEW LOOKING FWD)

**D206-667-507**  
**BENDING AND DRILLING DETAIL**  
(VIEW LOOKING FWD)

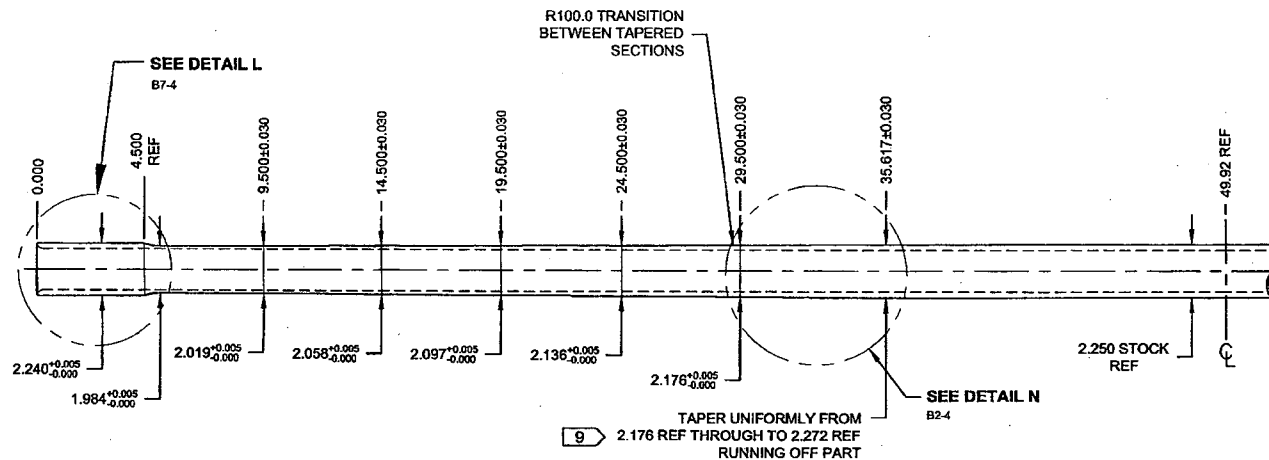
**PRELIMINARY ISSUE**  
Rev FA 1 12.06

**DETAIL H**  
SCALE 4X  
(VIEW LOOKING FWD)

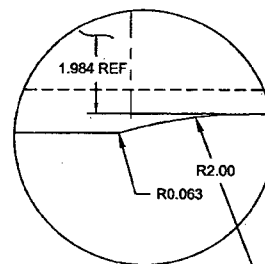


DESIGN		<b>DART AEROSPACE LTD</b>	
DRAWN		<b>HAWKESBURY, ONTARIO, CANADA</b>	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D206-667-147	SHEET 3 OF 4
APPROVED		TITLE	SCALE
DE APPR.		CROSS TUBE ASS'Y (206L MID FWD)	NTS
DATE	10.12.23	COPYRIGHT © 2010 BY DART AEROSPACE LTD	
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65369

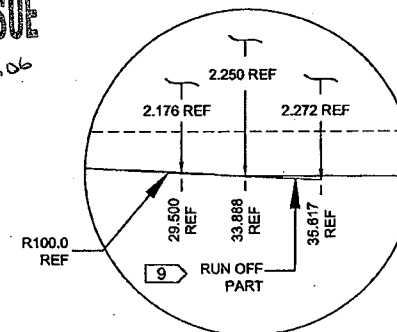


**TURNING DETAIL**

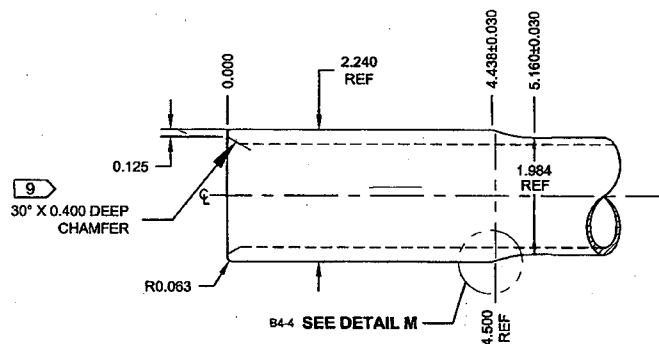


**DETAIL M:**  
CUFF TRANSITION  
NOT TO SCALE

**PRELIMINARY ISSUE**  
REV. PA1 11.01.06



**DETAIL N:**  
TAPER RUN-OFF  
NOT TO SCALE

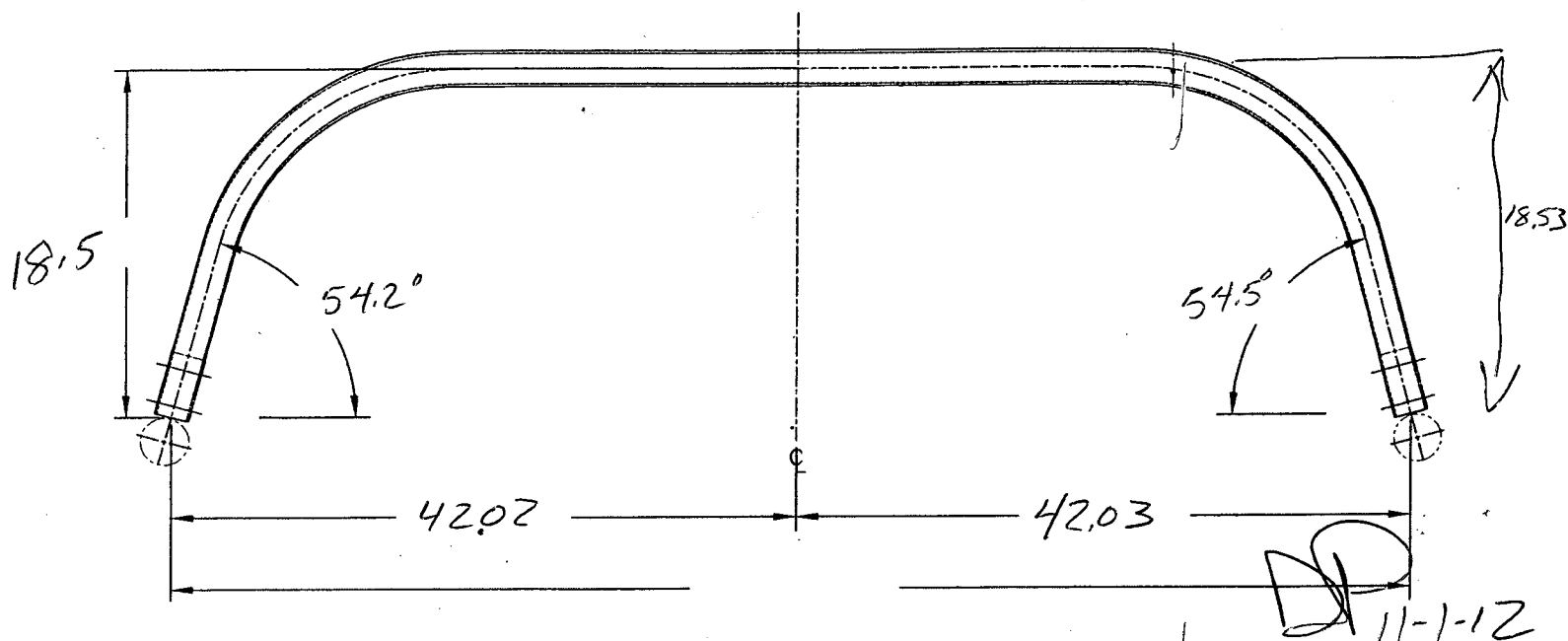


**DETAIL L:**  
CROSSTUBE CUFF  
NOT TO SCALE

DESIGN	97	<b>DART AEROSPACE LTD</b>	
DRAWN	97	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D206-667-147	SHEET 4 OF 4
APPROVED		TITLE	SCALE
DE APPR.		CROSSTUBE ASS'Y (206L MID FWD)	NTS
DATE	10.12.23	<small>COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	65369
<b>Description:</b> Crosstube <i>Preliminary</i>		<b>Part Number:</b>	D206-667-107
<b>Inspection Dwg:</b> D206-667-107	<b>Rev:</b> A	<b>Page 1 of 1</b>	

Required Dimension	Min	Max
Height		
1/2 Span		
Angle		
Total Span		



Comments

QC15 Inspection	<i>AP</i>
Date	11.01.17

Rev	Date	Change	Revised by	Approved
		New Issue		





## LIQUID PENETRANT TEST REPORT

P- 05495

CLIENT

ATTENTION

ADDRESS

PROJECT

ITEM(S) EXAMINED

DATE

ACUREN JOB NO.

POWOW No.

WORK LOCATION

ACCEPTANCE STD.

PAGE

OF

TIME

AM

PM

DART AEROSPACE  
LINDA LACELLE / CHANTACE / IAN  
1270, ABERDEN ST.  
HAWKES BURN, ON

JAN 17/2011

188-11-2015

13298

AS ADDRESS

ASTM 1417/GSI-038 REV./DATE 2005

F.P.I ON 2 "CROSS TUBES"

SEE BELOW

JOB DESCRIPTION

PROCEDURE No. LT002 REV./DATE 2008

TECHNIQUE No. LT-002 REV./DATE 2008

PART NO.

MATERIAL

THICKNESS

SCOPE

## TEST DETAILS

METHOD

☒ FLUORESCENT☐ VISIBLE☒ WATER WASH☐ SOLVENT REMOVABLE☐ POST EMULSIFIED

FAMILY BRAND

MACDAFLUX

BLACK LIGHT S/N

13298

☒ OUTPUT > 1000  $\mu$ W/CM<sup>2</sup>☐ AMBIENT < 2 fc

PENETRANT

ZL-67

MINIMUM DWELL TIME

10

MIN.

LIGHTING EQUIP.

☐ FLASHLIGHT☐ TROUBLELIGHT☐ OUTPUT > 100 fc @ SURFACE

PENETRANT REMOVER

H2O

MINIMUM DRY TIME

&gt;10

MIN.

OTHER

DEVELOPER

SKD-52

MINIMUM DWELL TIME

10

MIN.

LIGHT METER S/N

CAL DUE DATE FEB-05-2011

DEVELOPER TYPE

☒ NON AQUEOUS☐ AQUEOUS☐ DRY

## TEST SURFACE

SURFACE CONDITION

☐ AS GROUND☐ AS WELDED☐ MACHINED☐ SHOT BLASTED☒ CLEAN BARE METAL

SURFACE TEMPERATURE

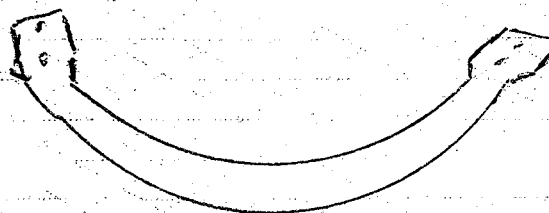
☐ < -4°C/ 20°F☐ -4°C/ 20°F TO 10°C/50°F☒ 10°C/50°F TO 52°C/125°F☐ > 52°C/125°F

RESULTS-

☐ METRIC☒ IMPERIAL

1 CROSS-TUBE W.O. ID 65369 ✓  
2 CROSS-TUBE W.O. ID 65370 ✓

"CROSS TUBE"



NO REJECTABLE INDICATION WAS DETECTED  
AS PER APPLICABLE STANDARD

1 ITEM ID: - D206-667-107BL  
- D206-667-207BL  
M/ 11-01-18

## Scope of Services

The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the use of the information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.

## Standard of Care

In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

## SIGNATURES

CLIENT REPRESENTATIVE

Math Murdoch

PRINT

Math Murdoch

SIGNATURE

DTR #

E-44834

TECHNICIAN (SIGNATURE):

Yves Desrosiers

NAME (PRINT):

CGSB LEVEL

SNT LEVEL

2

CGSB REG. No

3049

CGSB LEVEL

SNT LEVEL

CGSB REG. No

REPORT

REVIEWED BY:

NAME

INITIALS

WHITE - CLIENT COPY

CANARY - OFFICE COPY

PINK - TECHNICIAN COPY

GOLD - OFFICE COPY

PT Sept 2005